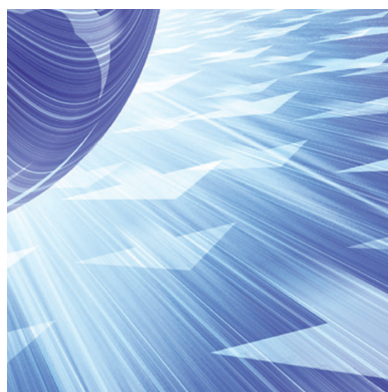


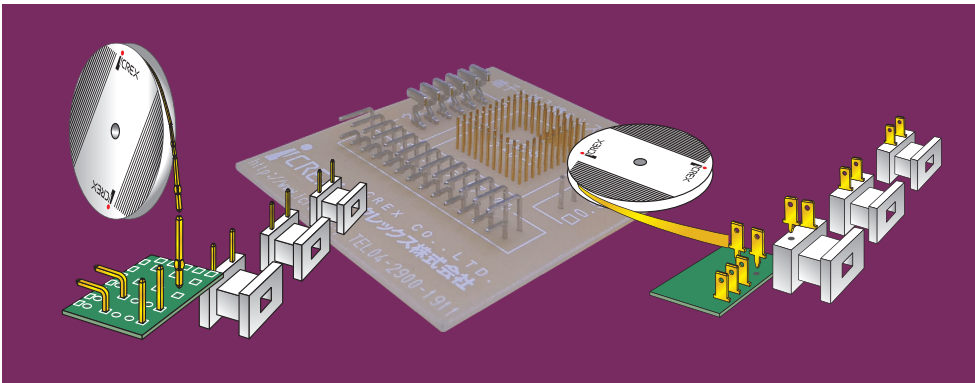
CATALOG



**Pre-form Chain Terminal
Insert Syatems**



Pre-form Chain Terminal Insert Systems



Catalog list

<p>Full custom pin headers</p>	<p>Semi-custom pin headers</p>	<p>Female Headers</p>	<p>Custom SMT Parts & Components</p>
<p>Crimping System</p>	<p>Pin Terminals, Lead-Pin</p>	<p>Flexible board connectors</p>	<p>PCB with terminals</p>
<p>Mini Jumpers</p>	<p>Assembly Services</p>	<p>Tube Caps</p>	<p>Problem resolution case studies</p>

Pre-form Chain Terminal Insert Systems

Description

The pre-form chain terminal insert system is a system realized by integrating the chain terminal with the chain terminal insertion machine at a high level. It consists of a pre-form chain pin terminal insert system and a pre-form chain tab terminal insert system. As a mechanical component for electrical connection between printed circuit boards, it has been adopted by many customers as a terminal for wire winding bobbins, and has been highly evaluated.

Pre-form Chain Terminal Insert Systems

Pre-form Chain
Pin Terminal
Insert System

Pre-form Chain
Pin Terminal

Pre-form Chain
Pin Terminal
Inserter

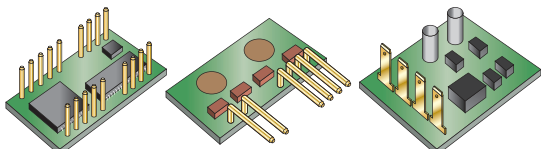
Pre-form Chain
Tab Terminal
Insert System

Pre-form Chain
Tab Terminal

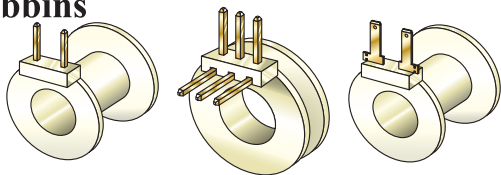
Pre-form Chain
Tab Terminal
Inserter

Applications

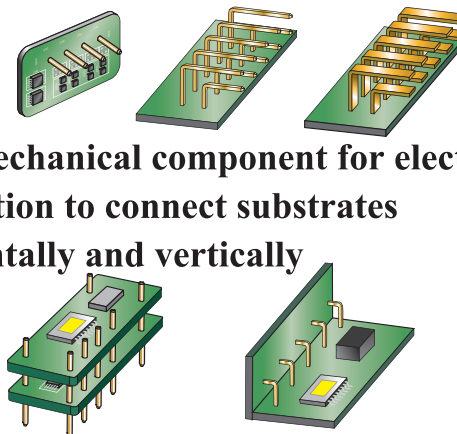
- As an electrical mechanical component for external connection of the board module
- As a connector connection terminal



- As a terminal for wire winding bobbins

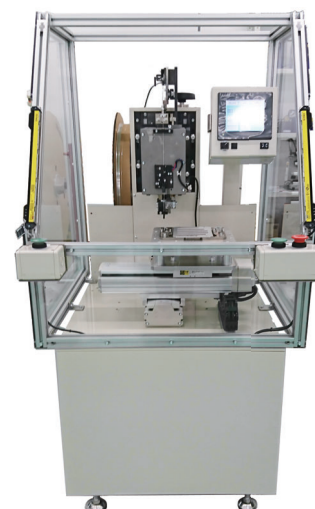


- As a mechanical component for electrical connection to connect substrates horizontally and vertically



Features

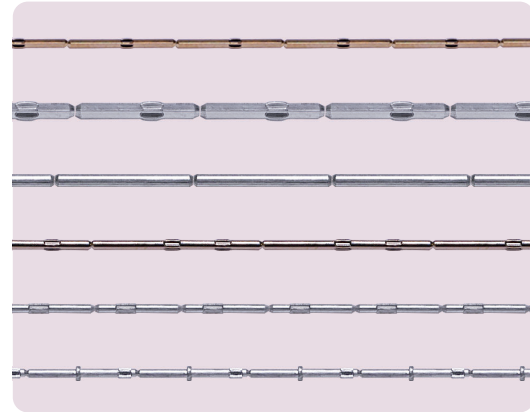
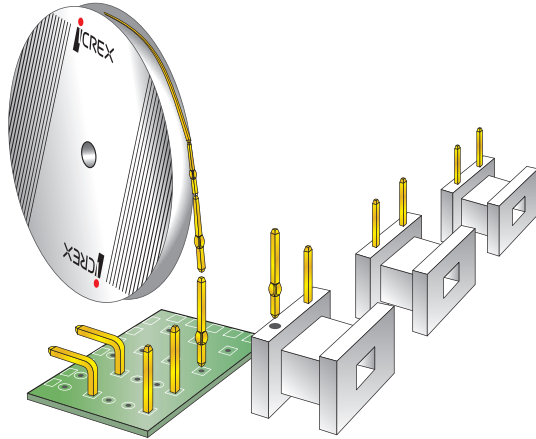
- NC control for positioning and high speed insertion
No need to swap insert tools for new insert patterns.
Insert programmes can be changed using NC channel control.
- Highly reliable preform chain terminal insertion
In comparison with the single terminal insert system used by parts feeders, which are prone to faults during terminal alignment and escape, our system delivers superior insertion probability by removing and inserting terminals one by one from the preform chain terminals.
- Applicator system for easy unit detachment and replacement
Different shapes of terminals can be accommodated rapidly.



Pre-form Chain Pin Terminal Insert System

Description

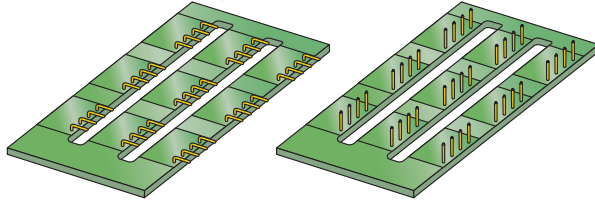
This is a system in which preform continuous pin terminals connected in a chain are separated one by one by a terminal insertion machine and directly inserted into a printed circuit board or bobbin.



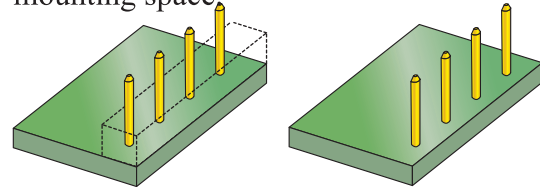
◆ Merits of Chain Pin Terminal direct insertion

● Terminals can be inserted on the collective board ● Reduction of dead space

Terminals can be inserted in a collective substrate state without using individual substrates.



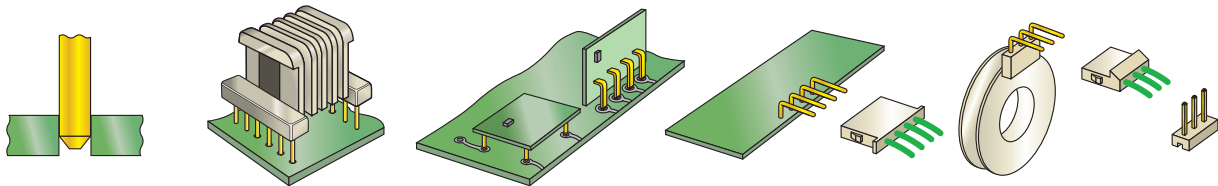
Since there is no need for space for the insulator like the pin header, there is a margin in the parts mounting space.



● Guiding shapes at both ends

A shape that is friendly to a workpiece that does not shave the lower hole of the printed circuit board or molded product at the pin tip when the pin terminal is inserted.

Furthermore, it is easy to insert into the mating board or connector.



● Cost reduction proposal

Soldering Terminals with Mounted Components by Reflow

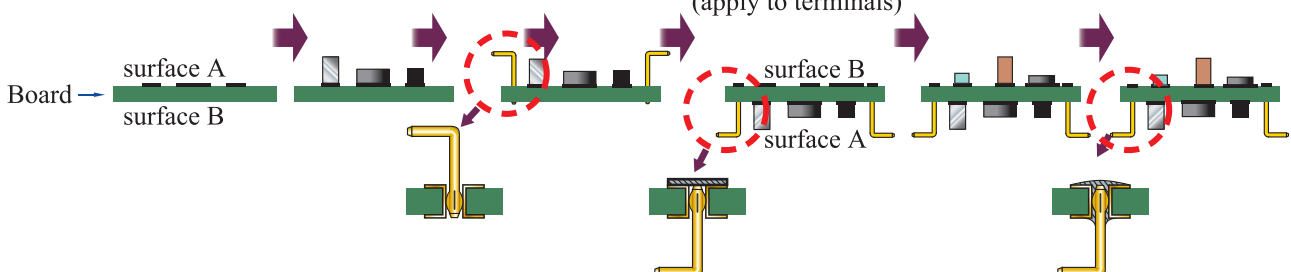
1) Apply cream solder to surface A
2) Mount components
3) Reflow

4) Insert terminals

5) Apply cream solder to surface B
(apply to terminals)

6) Mount components

7) Reflow



Pre-form Chain Pin Terminal Insert Syatem

Pre-form Chain Pin Terminal Insert System

◆ Overview and features

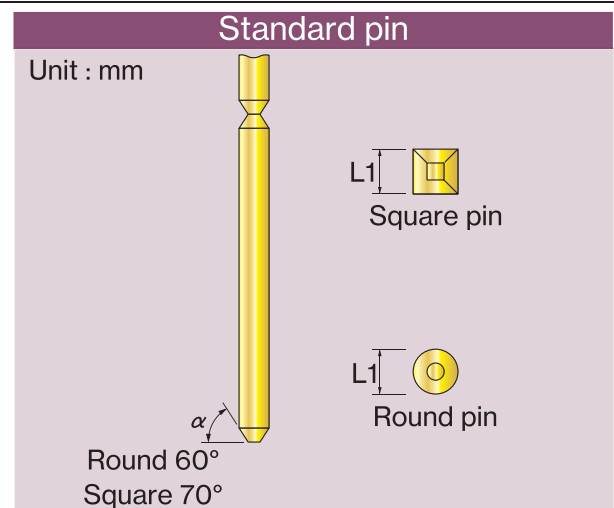
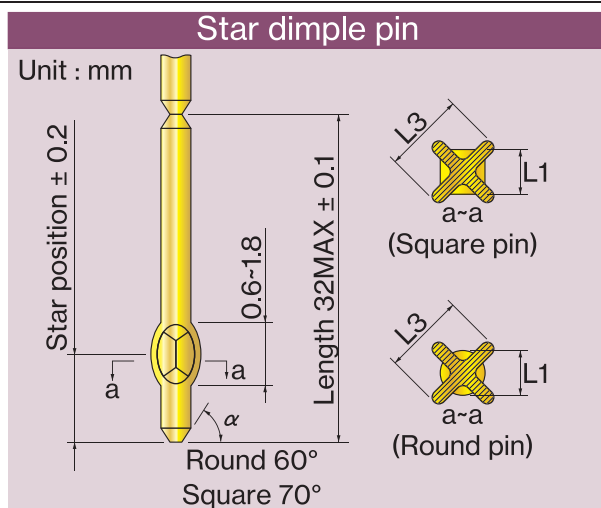
Within the scope of basic specifications, the length and thickness of the terminal can be specified without initial cost.

We also offer options for applying various machining depending on the application.

The tip of the terminal has a pyramid shape and does not drill a hole when the terminal is inserted.

In addition, by applying star processing to the press-fitting part, the fixing force can be increased.

◆ Basic Specifications for Preform Chain Pin Terminals



□ Square pin (unit : mm)

Face L1	Star diagonal (recommended values) L3	Pilot hole diameter (reference values)
0.4	0.61	0.55
0.5	0.76	0.7
0.6	0.87	0.8
0.64	0.99	0.90
0.8	1.21	1.10
1.0	1.48	1.35

○ Round pin (unit : mm)

Diameter L1	Star diagonal (recommended values) L3	Pilot hole diameter (reference values)
0.45	0.56	0.50
0.5	0.62	0.55
0.6	0.72	0.65
0.7	0.82	0.75
0.8	0.93	0.85
1.0	1.15	1.05

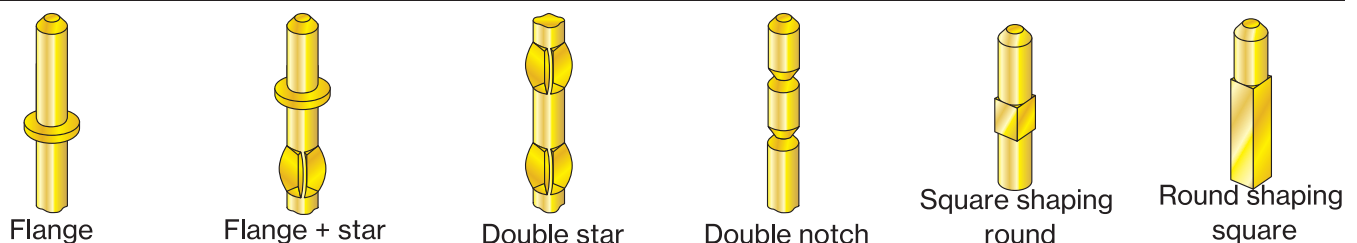
Note) These values are for reference only, as the pilot hole diameter will change depending on the material, thickness and required strength of the board or molded part.

Material : C2700W (brass), etc.

Surface treatment : Tin plating, etc.

Winds per reel : Depending upon pin size and length, approx.. 10,000 to 100,000

◆ Machining Options for Preform Chain Pin Terminals

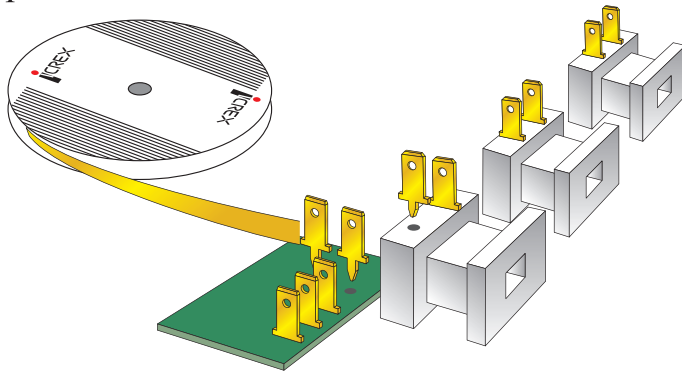


● All of our products are RoHS compliant.

Pre-form Chain Tab Terminal Insert System

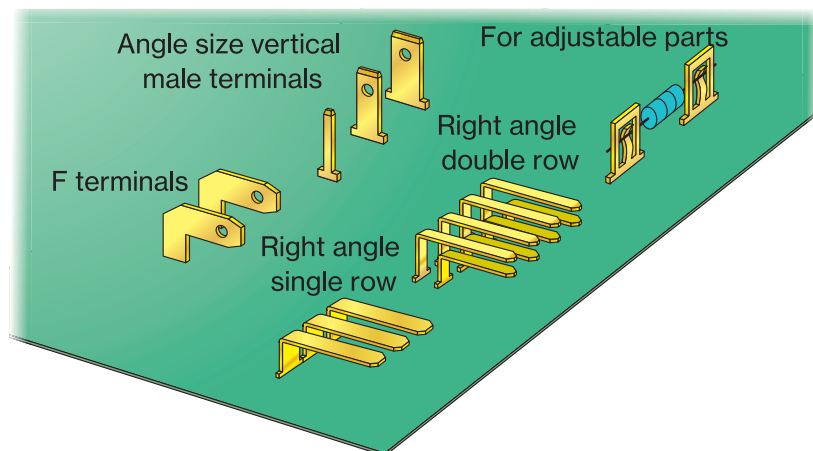
Description

This is a system that directly inserts a chain-shaped tab terminal manufactured by press working into a printed circuit board or bobbin by a terminal insertion machine. ICREX chain tab terminals are custom manufactured according to the application and purpose.

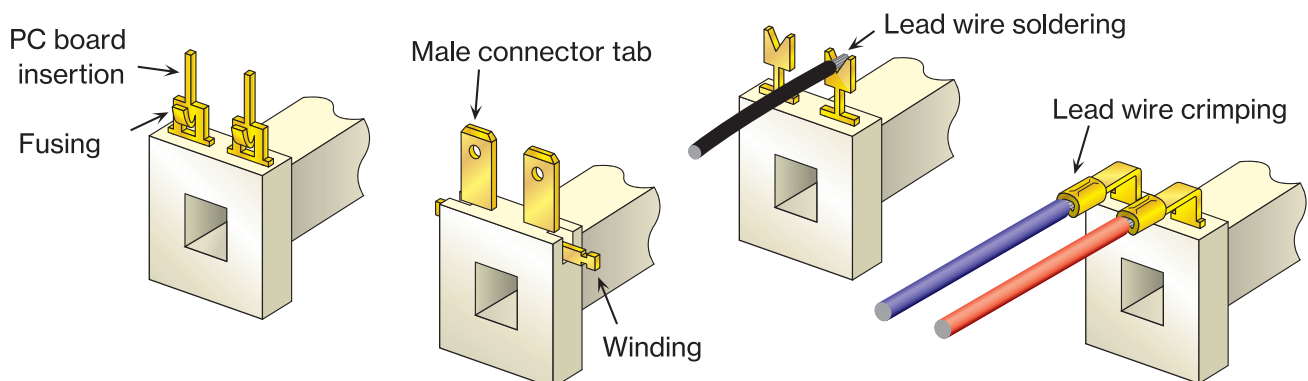


◆ Applications

- Printed circuit board tab terminal



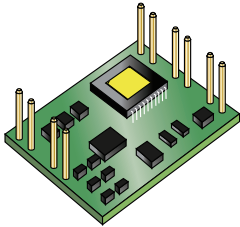
- Bobbin tab terminals



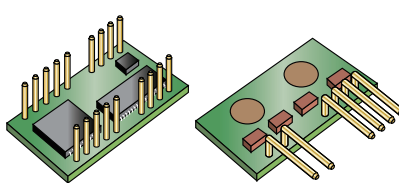
Terminal Insertion Examples

Board

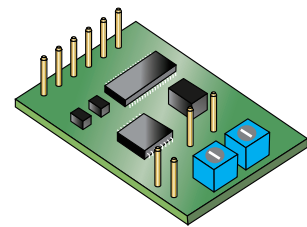
Power supply



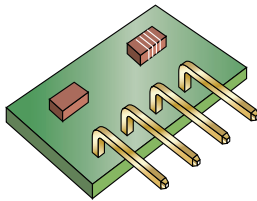
IC module



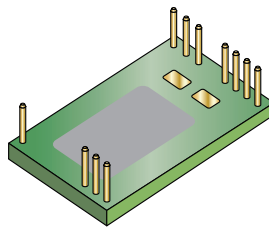
Sensor Module



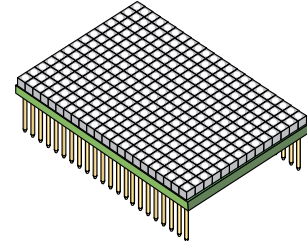
Solenoid valve



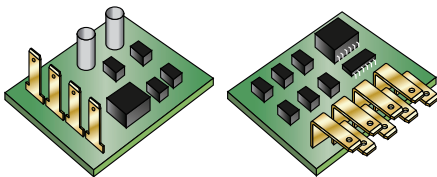
Radio module



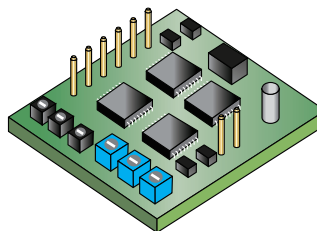
LED Module



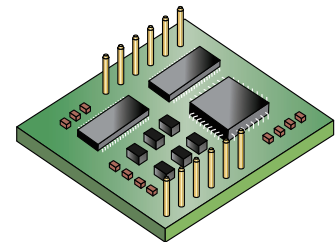
Automobile device control modules



Driver board

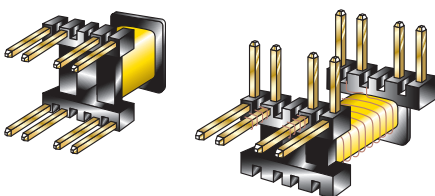


Various measuring instruments

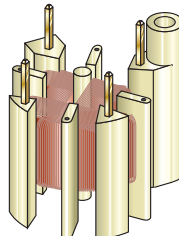


Bobbins

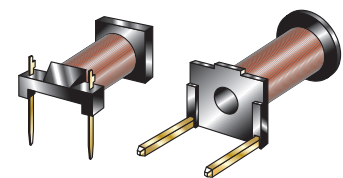
Transformers



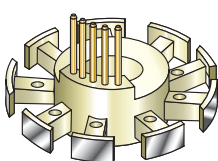
Meter coils



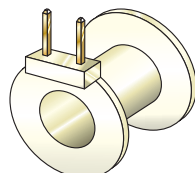
Relay coils



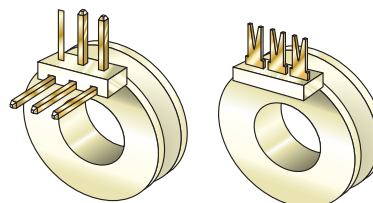
Spindle motors



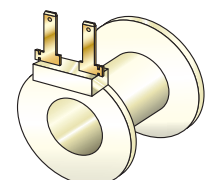
ABS



Stepping motors



Solenoid coil



Pre-form Chain Terminal Inserter

Overview

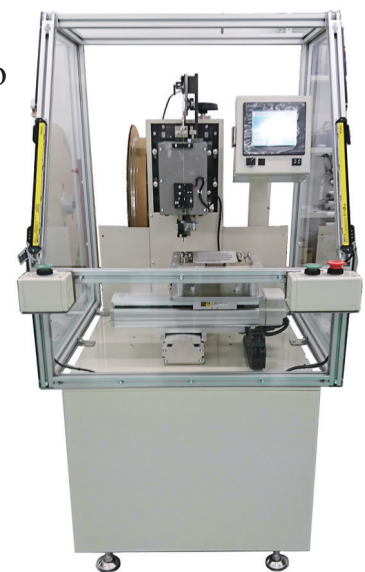
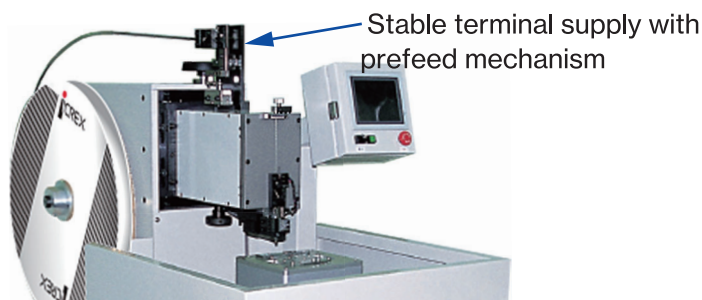
This machine inserts the preform chain terminal of the ICREX into the workpiece. For the preform chain pin terminal insertion machine, a stationary type and a tabletop type are available as standard machines, and for the preform chain tab terminal insertion machine, a quasi-standard stationary type is available. Custom specifications are also available, including two terminal insertion heads, in-line type machines, and automatic workpiece feeding devices.

Pre-form Chain Pin Terminal Inserter: PIA Series

This is an inserter for stationary continuous pin terminals. This machine uses a servo motor to drive the insertion head to insert terminals at high speeds. In addition, acceleration/deceleration of the insertion speed is possible.

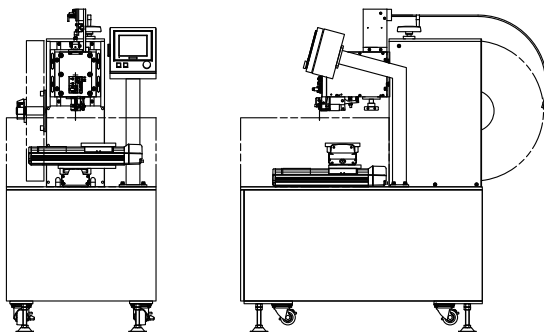
There are PIA-40-2020 which inserts straight pin terminal and PIA-50-2020 which inserts right angle pin terminal.

- Stable terminal supply with prefeed mechanism



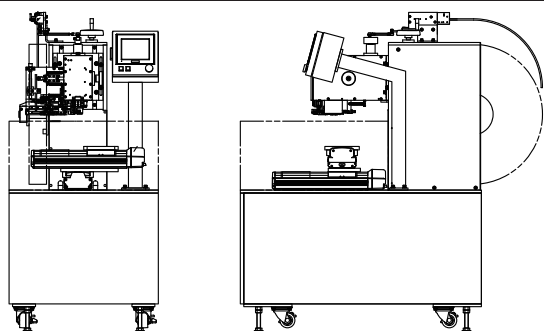
PIA-40-2020
with area sensor (option)

● Main specifications of straight pin terminal inserter PIA-40-2020



- Capability : 0.60sec./ pin (2.54mm pitch, straight pin)
- Drive : XY table and insert head driver are both by AC servo motor.
- Table stroke : 200mm×200mm (optional)
- Data input : PC
- Power supply : AC200V
- Dimensions : 650W×1320D×1450H (unit mm)
Includes terminal reel

● Main specifications of right angle pin terminal inserter PIA-50-2020



- Capability : 0.80sec./ pin (2.54mm pitch, right angle pin)
- Drive : XY table and insert head driver are both by AC servo motor.
- Table stroke : 200mm×200mm(optional)
- Data input : PC
- Power supply : AC200V
- Dimensions : 650W×1320D×1450H (unit mm)
Includes terminal reel

Pre-form Chain Terminal Inserter

Pre-form Chain Pin Terminal Inserter: PIS Series

This is a tabletop type insertion machine for chain pin terminals for small volume production, which pursues economic efficiency.

This is a tabletop type machine that drives the insertion head with air.

There are two types, one is for inserting the straight pin terminal and the other is for inserting the right angle pin terminal.

For workpiece positioning, there are fixed types, or types using a single-axis table of X or Y, and types using a two-axis table of XY.

● Main specifications of straight pin terminal inserter PIS Series



2-axis Model PIS-12-2015

Capability : 1.0 sec./ pin (2.54mm pitch)
Insert head : Pneumatic pressure
XY table : AC servo motor
Table stroke : X=200mm Y=150mm
Data input : Control touch panel, PC
Interface : SD card (PC)
Power supply : AC100V
Pneumatic pressure : 0.5Mpa
Separate control panel and operation board
Tabletop type
Dimensions (unit mm)
Body : 480W×810D×1020H
Includes terminal reel
Control panel : 200W×400D×400H
Operation board : 270W×235D×80H

The stand and cover : option

● Main specifications of right angle pin terminal inserter PIS Series



2-axis Model PIS-62-2015

Capability : 1.0 sec./ pin (2.54mm pitch)
Insert head : Pneumatic pressure
XY table : AC servo motor
Table stroke : X=200mm Y=150mm
Data input : Control touch panel, PC
Interface : SD card (PC)
Power supply : AC100V
Pneumatic pressure : 0.5Mpa
Separate control panel and operation board
Tabletop type
Dimensions (unit mm)
Body : 895W×545D×1090H
Includes terminal reel
Control panel : 200W×400D×400H
Operation board : 270W×235D×80H

The stand and cover : option



1-axis inserter
Model PIS-12-1000,
PIS-12-0010

Capability : 1.0 sec./ pin (2.54mm pitch)
Insert head : Pneumatic pressure
XY table : AC servo motor
Table stroke : X=100mm or Y=100mm
Data input : Control touch panel, PC
Interface : USB (PC)
Power supply : AC100V
Pneumatic pressure : 0.5Mpa
Separate control panel and operation board
Tabletop type
Dimensions (unit mm)
Body : 335W×750D×950H
Includes terminal reel (PIS-12-1000)
320W×785D×950H
Includes terminal reel (PIS-12-0010)
Control panel and Operation board :
150W×330D×260H

● All of our products are RoHS compliant.

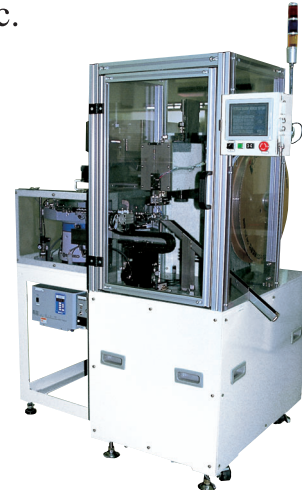
Pre-form Chain Terminal Inserter

Pre-form Chain Terminal Inserter. Workpiece auto-supply device

The preform chain terminal insertion machine with automatic loading/unloading equipment for workpieces designs and manufactures systems that allow the inserter and line to perform the functions most efficiently according to the workpiece shape, production volume, line configuration, tact time, etc.



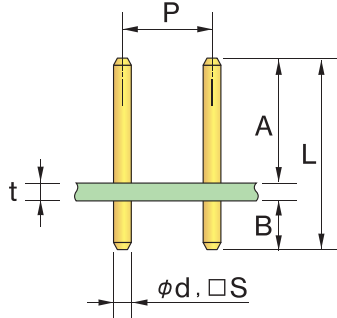
Chain Terminal Inserter with automatic board delivery device
Board delivery and storage : magazine rack



Chain Terminal Inserter with automatic coil bobbin delivery device
Bobbin delivery : ball feeder
Eject : shooter

Pre-form Chain Pin Terminal Insertion specifications

•Straight pin terminal

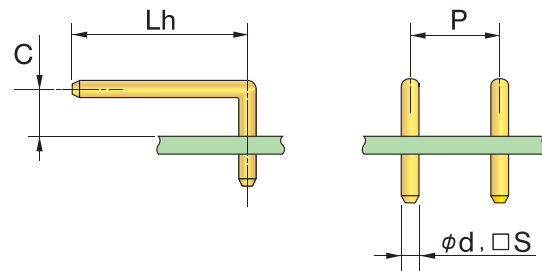


- Pin length Max : $L_{max}=25$
- Workpiece upper Min : $A_{min}=2.0$
 $A > L/3$
- Workpiece lower $B \geq 0$
Note: Minimum dimensions affect workpiece thickness,
- Round : $\phi d=0.45\sim 1.0$ Square : $\square S=0.4\sim 1.0$

Pitch Min (unit mm)

$\phi d, \square S$	Minimum pitch
0.5 or less	1.27
0.5 over 0.64 or less	2.0
0.64 over 0.8 or less	2.5
0.8 over 1.0 or less	3.0

•Right angle pin terminal



	Round	Square
Vertical section minimum	$Lh \geq \phi d \times 4$	$Lh \geq \square S \times 4$
Workpiece upper minimum	$C \geq \phi d \times 3$	$C \geq \square S \times 3$
Pin thickness	$\phi d=0.45\sim 0.8$	$\square S=0.4\sim 0.8$

Pitch Min (unit mm)

$\phi d, \square S$	Minimum pitch
0.4 or less	1.27
0.4 over 0.5 or less	1.5
0.5 over 0.6 or less	2.0
0.6 over 0.7 or less	2.3
0.7 over 0.8 or less	2.5

• All of our products are RoHS compliant.

